

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/006708

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

- ☐ international search (Rule 12.3 and 23.1(b))
☐ publication of the international application (Rule 12.4)
☐ international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☐ the international application as originally filed/furnished

☒ the description:

pages 1-14 as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☒ the claims:

nos. _____ as originally filed/furnished

nos.* _____ as amended (together with any statement) under Article 19

nos.* 1-18 received by this Authority on 25.04.2005 with letter of 22.04.2005

nos.* _____ received by this Authority on _____

☒ the drawings:

sheets 1/4-4/4 as originally filed/furnished

sheets* _____ received by this Authority on _____

sheets* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-18	YES
	Claims		NO
Inventive step (IS)	Claims	1-18	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-18	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

1. This report makes reference to the following documents:

D1: DE 101 63 355 C (SCHLIESANLAGEN GMBH)

13 March 2003

D2: DE 199 19 283 A (DOM SICHERHEITSTECHNIK)

9 December 1999

D3: DE 196 03 320 A (UHLMANN GUENTER)

7 August 1997

D4: EP-A-0 243 586 (HERZ GMBH) 4 November 1987

D5: WO 02/088492 A (KABA GEGE GMBH)

7 November 2002

2. INDEPENDENT CLAIM 1

- 2.1 Independent claim 1 pertains to an electromechanical lock cylinder which has two opposing lock cores or knob shafts.

- 2.2 D1 (cf. column 6, line 14 to column 7, line 59; figures 1-5), which is considered to represent the prior art closest to the subject matter of claim 1, discloses (the references in parentheses are to

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this document):

an electromechanical lock cylinder (1) which cooperates with an evaluating electronics system (14) for recognizing an access authorization and has a housing (2) which encloses two opposing cylindrical recesses, in each of which a lock core (3, 3') which is actuatable by a key (5) is rotatably mounted, wherein the lock cores (3, 3') cooperate with a lock lug (12) which actuates, in particular, a bolt or latch of a door lock and if the key (5) fits or in the event of successful access authorization an electromechanically driven blocking or coupling element (19) is displaced from the neutral position (figure 2) to an active position (figure 5) and a connection which rotates in unison is produced between the key (5) and the lock lug (12), while, when the blocking or coupling element (19) is in the neutral position (figure 2), the lock lug (12) is freely rotatable relative to the two lock cores (3, 3').

The subject matter of claim 1 thus differs from D1 in that:

- the blocking or coupling element (14) is arranged on or in the lock core or on or in the knob shaft (11) and rotates together with said lock core or knob shaft and comprises an electric drive (23) with an eccentric (15, 16) which moves a dog (19) between the neutral

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position and the

- active position in which said dog engages with a recess (28) of the lock lug (13) or of a rotary sleeve (35) on which the lock lug is arranged.

Therefore, the subject matter of claim 1 is novel (PCT Article 33(2)).

3. The problem addressed by the present invention may therefore be considered that of designing a lock cylinder of the initially indicated type such that a flexible arrangement of rotary knobs or lock cores with or without a key is made possible (cf. page 3, paragraph 2) and wherein the manufacturing cost of the electromechanical lock cylinder is low.

The solution to this problem proposed in claim 1 of the present application involves an inventive step (PCT Article 33(3)). The reasons are:

Although in D5 (cf. figures 1-7) an electric drive (5) with an eccentric (6, 7) is provided and a blocking pin (8) can be displaced between a release position of the lock core (4) and a blocking position (figure 1), the drive (5) and the blocking pin (8) in D5 are arranged in the cylinder housing, not in the locking core.

Proceeding from D1 as the closest prior art, to add the features of the eccentric arrangement as

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per D5 to the lock cylinder described in D1, thereby arriving at a lock cylinder as per claim 1, without having to undertake a major redesign of the lock cylinder described in D1 would not be obvious to a person skilled in the art, since, in particular, the electromagnet (15) described in D1 is not arranged in the lock core (3, 3') but in a housing (13) in the locking recess (9) which is rotatably mounted on a bushing (11) of the locking part (10) (cf. column 5, lines 30-34; figure 2).

Further, a person skilled in the art also receives no inducement to combine the two documents (D1 and D5), since, in particular, D1 describes a coupling device, whereas D5 pertains to a blocking device.

Therefore, the subject matter of claim 1 involves an inventive step (PCT Article 33(3)) over the cited prior art (cf. D1-D5).

4. INDEPENDENT CLAIMS 3 AND 5

Claim 3 pertains to an electromechanical lock cylinder which has a knob shaft and a lock core.

Claim 5 pertains to an electromechanical lock cylinder which has a single knob shaft or a single lock core.

The characterizing features of independent claims 3 and 5 are identical with the characterizing features of independent claim 1 and therefore

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claims 3 and 5 likewise meet the PCT requirements for novelty and inventive step.

5. Claims 2, 4 and 6-18 are dependent on claims 1, 3 or 5 and therefore likewise meet the PCT requirements for novelty and inventive step.

6. INDUSTRIAL APPLICABILITY

Claims 1-18 are industrially applicable (PCT Article 33(4)) in the field of locking technology.